



## PHAEOGRAPHIS <sup>1</sup>

Gintaras Kantvilas <sup>2</sup>

*Phaeographis* Müll.Arg., *Flora* 65: 336 (1882).

Type: *P. dendritica* (Ach.) Müll.Arg.

Thallus crustose, corticate, with or without medullary calcium oxalate crystals. Photobiont *Trentepohlia*, with cells ellipsoid to subglobose, 8–16 × 6–10 µm, scattered or clustered. Ascomata apothecia, lirelliform, rarely discoid, immersed to erumpent, with a thin but distinct lateral thalline margin. Disc exposed, black, sometimes pruinose. Proper exciple very thin, entire or ± striate, in section not carbonised or weakly apically carbonised. Hypothecium hyaline to pale yellowish. Hymenium hyaline, I+ pale yellow-brown, KI- or very weakly and patchily KI+ pale blue, densely interspersed with oil droplets. Asci elongate-clavate, 8-spored, of the *Graphis*-type: non-amyloid, with a slightly thickened apex and ± truncate ascoplasm. Paraphyses ± simple; apices hyaline, not expanded. Ascospores fusiform, with rounded apices, transversely septate or muriform, non-halonate, hyaline when young, soon becoming grey-brown, I+, KI+ reddish purple at the septa; locules lens-shaped. Conidiomata unknown. Chemistry: depsidones, especially stictic or norstictic acids, or nil.

A genus of c. 200, chiefly corticolous species, found mainly in tropical to subtropical regions; 20 species are recorded for Australia. Despite the extensive revision of the genera of the Graphidaceae, initially on morphological characters (Staiger 2002) and subsequently using molecular data (chiefly by R. Lücking and collaborators), *Phaeographis* and its relatives remain incompletely resolved (Cáceres *et al.* 2012). The genus is best distinguished by a combination of a poorly developed, at most weakly carbonised proper exciple, the brown ascospores and densely interspersed hymenium. The single Tasmanian taxon possibly belongs in the *Ectographis* clade on account of its corticate thallus and pruinose apothecial disc. In the Tasmanian flora, *Phaeographis* is most similar to *Leiorreuma* (which has a well-developed, heavily carbonised exciple and an exposed disc) and *Halegrapha* (well-developed, heavily carbonised exciple and an obscured disc).

Key references: Staiger (2002); Archer (2006, 2009); Lücking *et al.* (2011); Cáceres *et al.* (2012).

### 1 *Phaeographis lindigiana* Müll.Arg.

*Flora* 65: 383 (1882).

Thallus pale olive-grey to brownish grey, smooth to rather lumpy and maculate, continuous, 40–120(–150) µm thick, forming diffuse patches to 30 mm wide, in section weakly KI+ violet; calcium oxalate abundant between the cortical and photobiont layers, especially beneath the “lumps” in the thallus. Lirellae commencing as elevated cracks in the thallus, scattered, usually branched, sometimes stellate, straight or sinuous, 1–3 mm long, with a thin, whitish, fissured and scabrid thalline margin; disc exposed, to c. 0.15 mm wide, thinly greyish-pruinose. Exciple usually visible as thin, black border, in section weakly laterally or apically carbonised, orange-brown, K–, 20–25(–40) µm thick. Hypothecium 10–20 µm thick, KI+ pale blue. Hymenium

1 This work can be cited as: Kantvilas G (2023). *Phaeographis*, version 2023:1. In MF de Salas (Ed.) *Flora of Tasmania Online*. 2 pp. (Tasmanian Herbarium, Tasmanian Museum and Art Gallery: Hobart). <https://flora.tmag.tas.gov.au/lichens/genera/phaeographis/> (accessed 14 September 2022).

2 Tasmanian Herbarium, Tasmanian Museum & Art Gallery, PO Box 5058, UTAS LPO, Sandy Bay, TAS 7005, Australia.

65–90 µm thick, very densely inspersed, overlain by a thin, brown epithelial layer; asci 55–82 × 13–20 µm; paraphyses 1.5–2 µm wide. Ascospores transversely 3-septate, 15–18.7–21.5(–22) × (6–)6.5–7.6–9 µm.

Chemistry: no lichen compounds detected by TLC; all spot tests negative.

Known from the eastern Australian mainland and tropical South America. Rare in Tasmania and recorded from the far north of the island and from the Bass Strait islands, where it occurs as an epiphyte on smooth-barked understorey trees in wet forest. It is superficially similar to *Leiorreuma exaltatum*, a generally more robust species with a broadly gaping disc, heavily carbonised exciple and larger, more septate ascospores.

Stony Head MTA, 41°01'05"S 147°01'43"E, 210 m, 2020, G. Kantvilas 192/20 (HO); Woolnorth, Three Sticks Run, 40°43'S, 144°43'E, 30m, 2023, G.Kantvilas 162/23 (HO).

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